Abstract

Disclosed is a method for measuring the molecular rotation speed (the number of rotations or the rotation frequency) of a fullerene or a fullerene derivative in a relatively simple and inexpensive manner, for the evaluation of the fullerenes. The method comprises having a thin film of the fullerene or the fullerene derivative absorb an electromagnetic wave varied in frequency, and measuring the change in electromagnetic wave intensity against temperature, thereby determining the molecular rotation speed of the fullerene or the fullerene derivative from the frequency of the electromagnetic wave at the temperature where there is an abrupt change in the electromagnetic wave intensity from the absorption region to the non-absorption region. In a preferred embodiment, electromagnetic waves produced from the surface of a surface acoustic wave device are used.